

Appl. No. 08/935,088
Amdt. dated Sept. 12, 2003
Reply to Office Action of June 13, 2003

REMARKS/ARGUMENTS

Pursuant to 37 C.F.R. § 1.111, reconsideration of the present application in view of the foregoing amendments and the following remarks is respectfully requested.

In the Specification

The paragraphs beginning at page 12, line 22 and page 3, line 18 have been amended for clarity. The paragraph beginning at page 12, line 22 has a minor change to reinforce that the "web" referred to (page 13, line 2) is the same fiber and binder web referred to earlier in the paragraph (page 12, lines 23 -24). For additional clarity, the paragraph beginning at page 3, line 18 has also been amended to better reflect the description found in the paragraph beginning at page 12, line 22. No new matter has been added.

The paragraph beginning at page 16, line 5 (Example 1) has also been amended to correct an erroneous value. The volume of the micro-pocket of Example 1 is a calculated value based on the crepe level of the web and the dimensions of the bond pattern of the web (see paragraph bridging pages 9 and 10). Example 1 has a crepe level of 25 percent and utilizes a diamond EHP pattern (page 16, line 6). A typical EHP pattern has bond points spaced about 2.464 mm apart (page 6, lines 19 - 21; page 9, lines 23 - 24). The equations on page 10 (line 3 and line 5) are used to calculate the micro-pocket volume for a diamond pattern. For Example 1, the value of "a" is 2.464 mm and the value for "CL" is 25. The correct, calculated volume is thus 0.992 cubic millimeters.

Applicant draws the Examiner's attention to the fact that the paragraph beginning at page 17, line 8 has been amended to correct an erroneous reference.

In the Claims

Claims 1 - 6 and 8 - 20 are presented for the Examiner's consideration. Claims 1 and 15 have been amended for clarity and to incorporate the subject matter of claim 7 as originally filed. Claim 7 has been cancelled.

Claims 19 and 20 have been added. The new claims reflect a preferred embodiment of the invention (see paragraph beginning page 12, line 22 as well as Examples 1 and 2 on page 16).

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Summary of th Invention

This invention relates to nonwoven material for personal care products having a mixture polymeric fibers, binder and superabsorbent. The binder is present in an amount between 1 and 6 weight percent of the fiber and binder mixture before superabsorbent is added. The superabsorbent is added to the fiber and binder in an amount between 1 to 80 weight percent of the fiber with binder. The superabsorbent is preferably in the form of particles (SAP). The SAP is placed in micro-pockets formed by various means like creping or the manual creation of depressions in the surface of the nonwoven using a pattern roll. The volume of these micro-pockets may be between 0.33 and 10 cubic millimeters. With this construction the web remains permeable to liquids before and after wetting. The web should have a permeability above 1500 darcys.

Regarding Examiner's rejections

1. Rejection for indefiniteness

By way of the Office Action mailed June 13, 2003, Examiner Pierce rejected claims 1 - 18 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner contends that claim 1 is unclear as to whether the weight percentages relate to the total weight of the entire product or are comparative to other ingredients (fibers) in the web. The Examiner further contends that claim 15 has a similar problem in reciting a weight percent of binder alone.

Applicant has amended claims 1 and 15 to clarify that the binder of the nonwoven material is present in an amount of between 1 and 6 weight percent based on the weight of the fiber and binder before it is loaded with superabsorbent. The clarifying amendment of the claims 1 and 15 also reflects that the weight percentage of superabsorbent is similarly based on the fiber and binder before it is loaded with superabsorbent. Both of these claim amendments find support in the specification paragraph beginning at page 12, line 22.

Hence, the Applicant respectfully requests that the Examiner withdraw the indefiniteness rejection of claims 1 - 18.

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2. Rejection for anticipation by Tanzer et al.

By way of the Office Action mailed June 13, 2003, Examiner Pierce rejected claims 1 – 6, 9 – 13, and 15 under 35 U.S.C. §102(b) as allegedly being anticipated by Tanzer et al. (U.S. Patent No. 5,562,645). This rejection is respectfully traversed to the extent that it may apply to the present claims.

Although the claims of Tanzer are not limited as to the size of the pockets, Tanzer does not disclose or teach the micro-pockets of the size claimed in the present invention, as the Examiner has acknowledged.

The present invention defines micro-pockets to be small pockets in the single layer nonwoven web that have a volume of only a few cubic millimeters or less (see page 6, lines 6 – 8). As presently claimed, such micro-pockets are between 0.33 and 10 cubic millimeters. Such micro-pockets are just large enough to allow entry of and storage for individual particles of superabsorbent.

Because Tanzer fails to disclose each and every element of Applicant's claims as amended, Applicant respectfully submits that the rejection of Claims 1 - 6, 9 - 13, and 15 under 35 U.S.C. §102(b) in view of Tanzer is improper and should be withdrawn.

Furthermore, Tanzer fails to disclose each and every element of the new claims 19 and 20. Tanzer discloses a material with at least 90 weight percent of its fiber content to be fibers that are shorter than about 0.4 inch (column 3, lines 24 – 17; column 15, lines 49 – 61; claims 1, 2, and 6). In contrast, new claims 19 and 20 claim continuous fibers. Therefore, new claims 19 and 20 are not anticipated by Tanzer, in the sense of 35 U.S.C. §102(b), for all of the previous reasons discussed above and the fact that Tanzer does not disclose the element of continuous fibers.

3. Rejection for obviousness by Tanzer et al.

By way of the Office Action mailed June 13, 2003, Examiner Pierce rejected claims 7, 8, 17 and 18 under 35 U.S.C. §103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over Tanzer et al. (U.S. Patent No. 5,562,645). This rejection is respectfully traversed to the extent that it may apply to the presently presented claims.

The pockets of Tanzer are formed between multiple layers of material (column 20, line 42-46). Tanzer teaches by reference (column 20, line 48 -55) the pockets of U.S. Patent Application Ser. No. 145,926 of Tanzer et al., which was filed Oct. 29, 1993. A continuation of this application,

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filed on Jan. 6, 1995, was granted as U.S. Patent 5,593,399. The pockets, as taught and claimed by '399, are formed by the lamination of at least two carrier layers (see claim 1; column 4, lines 42 - 56; paragraph bridging columns 13 and 14). These layers are unattached in regions that are completely surrounded by regions that surround and separate the unattached regions. These unattached regions are the pockets that quantities of superabsorbent are segregated (see column 14, lines 8 -22).

The present invention is distinguishable in that it defines micro-pockets to be small pockets, having a volume of only a few cubic millimeters or less, formed in the single-layer nonwoven web (see page 6, lines 6 - 8). Such micro-pockets are just large enough to allow entry of and storage for individual particles of superabsorbent. Unlike Tanzer, the present invention does not use a second layer to form pockets to contain the superabsorbent. Instead, the invention forms pockets within its single layer made up of fiber and binder. Thus, the present invention of micro-pockets formed in the single-layer is nonobvious, in the sense of 35 U.S.C. § 103(a), in view of the multi-layer formation of the pockets in Tanzer.

More particularly, the Examiner contends that size of the pockets is a results effective variable and it would have been obvious to one of ordinary skill in the art to make the pockets of Tanzer between 0.5 and 5 cubic millimeters, since discovering an optimum value of a result effective variable involves only routine skill in the art under the ruling of *In re Boesch*. Likewise, the Examiner contends that the permeability is also a result effective variable and it would have been obvious to one skilled in the art to optimize the permeability of the Tanzer material to a level of at least 2000 darcys.

As the Examiner has acknowledged, Tanzer does not disclose or teaches neither the volume of its pockets nor the permeability of the material. As discussed above, the present invention has micro-pockets of a very small size and has a single-layer structure rather than the multiple layer structure of Tanzer. The structure of the present invention is nonobvious in view of Tanzer. Therefore, neither the pocket volume nor the permeability would be result effective variables and it would not be obvious, in the sense of 35 U.S.C. § 103(a), to merely optimize the size of the pockets or the level of permeability in Tanzer.

Claims 1 and 15 have been amended to incorporate the subject matter of originally filed claim 7. Claims 8, 17 and 18 are dependent claims which contain all the limitations of the respective independent claims. Because Tanzer does not teach or suggest all of the claim limitations Applicant respectfully submits that the rejection of 8, 17 and 18 under 35 U.S.C. §103(a) in view of Tanzer is improper and should be withdrawn.

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Furthermore, new claims 19 and 20 are not obvious in view of Tanzer. As discussed above, Tanzer discloses a material with not less than 90 percent of its fibers being not longer than 0.4 inch. New claims 19 and 20 claim continuous fibers which are a substantially different than the short fibers of Tanzer. Therefore, for all the reasons discussed above and because of the difference in fiber length, the present invention is non-obvious under 35 U.S.C. §103(a) in view of Tanzer.

4. Rejection for obviousness by Tanzer et al. in view of Shohji et al.

By way of the Office Action mailed June 13, 2003, Examiner Pierce rejected claims 14 and 16 under 35 U.S.C. § 103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over Tanzer et al. (U.S. Patent No. 5,562,645) in view of Shohji et al. (U.S. Patent No. 5,549,964). This rejection is respectfully traversed to the extent that it may apply to the presently presented claims.

Claims 14 and 16 depend directly from claims 1 and 15 respectively which Applicant has discussed claims 1 and 15 above. Claims 14 and 16 are similarly distinguishable from Tanzer in view of Shohji. Therefore, Tanzer is no longer an appropriate base reference for an obviousness rejection.

Regardless, Applicant also believes that a prima facie case for obviousness has not been made with respect to claims 14 and 16. As the Examiner pointed out, Tanzer does not disclose electret treatment of the web. Shohji mentions that electret treatment would improve the filtering properties of the invention of Shohji while Tanzer relates to absorbent structures for consumer products. There is no suggestion or motivation to combine the references.

Thus, Applicant respectfully asks that the obviousness rejection of claims 14 and 16 under 35 U.S.C. § 103(a) be withdrawn.

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For the reasons stated above, it is respectfully submitted that all of the present claims are in form for allowance.

Please charge any prosecutorial fees which are due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

The undersigned may be reached at: (770) 597-8096.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I, Nathan Hendon, hereby certify that on September 12, 2003, this document is being sent by facsimile to the United States Patent and Trademark Office, Technology Center 1700, "Before Final" facsimile machine at 703-872-9310.

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